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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,737	03/29/2004	Randolph S. Reddick	032759.00011	1677
7590 02/03/2006			EXAMINER	
McNair Law Firm, P.A. P.O. Box 10827 Greenville, SC 29603-0827			AUSTIN, AARON	
			ART UNIT	PAPER NUMBER
			1775	
DATE MAILED: 02/03/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/811,737	Applicant(s) REDDICK, RANDOLPH S.	
	Examiner Aaron S. Austin	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-18,20-23,25-38 and 40-44 is/are allowed.
- 6) ☒ Claim(s) 3,19,24,39 and 45-53 is/are rejected.
- 7) ☒ Claim(s) 1,7,26,41,45,48,51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because legal language in the form of the word "comprises" appears twice. Further, the recitation of "The plurality cells" should read "The plurality of cells". Correction is required. See MPEP § 608.01(b).

Claim Objections

Claim 1 is objected to because of the following informalities:

"each cell of said cells" should read "each cell of said plurality of cells"; and

"due to impact providing" should read "due to impact, providing". Appropriate correction is required.

Claim 7 is objected to because of the following informalities: "of adjacent of said cells" should read "of said adjacent cells". Appropriate correction is required.

Claim 26 is objected to because of the following informalities:

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"a support layer, and" should read "a support layer and"; and

"plastic and includes an upper" should read "plastic and including an upper".

Appropriate correction is required.

Claim 41 is objected to because of the following informalities: the claim is not a complete sentence as it does not include a period. Appropriate correction is required.

Claim 45 is objected to because of the following informalities: "said outer lay comprising" should read "said outer layer comprising"; and

"porosity and substantial equal" should read "porosity and substantially equal".

Appropriate correction is required.

Claim 48 is objected to because of the following informalities: "backing one of latex" should read "backing comprises one of latex" or like limitation thereof.

Appropriate correction is required.

Claim 51 is objected to because of the following informalities: "of adjacent of said cells" should read "of said adjacent cells". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 19 recites the limitation "said felt". There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites the limitation "said upper layer". There is insufficient antecedent basis for this limitation in the claim.

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Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: an upper layer. Amending the claim to recite "upper layer which" rather than "upper which" will overcome this rejection.

Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the specification of "adjacent vertical axes adjacent of said grid" does not specify the structure with which the adjacent axes are associated. For purposes of this office action this claim will be interpreted to correspond to paragraph [0023] of the specification in which cells forming grids are axially spaced by about 4".

Claims 47 and 51-53 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship between mesh sizes. As written, the claims could be interpreted to mean either 1. a limitation on mesh sizes within a numerical value of each other, or, in its broadest sense, 2. a limitation on mesh sizes such that the particles may be any of a numerical value of mesh sizes. For purposes of this office action the claims will be interpreted to mean a limitation on mesh sizes within the specified numerical value of each other.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 45-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buck et al. (U.S. Patent No. 6,818,274) in view of Benedyk (U.S. Patent No. 4,356,220).

Buck et al. teach an artificial turf system including an outer layer formed of turf backing including pile fabric, a base layer, and a support layer. The outer layer includes an infill layer comprising ceramic material such as silicon dioxide (column 5, line 27). The infill layer may be provided in a variety of shapes and sizes, such as spheres, balls, or beads of equal size (column 5, lines 55-67) with a diameter of between 1/32 and 1 inch (column 5, line 62), converted to between 1 and 32 mesh. The preferred diameter for spherical infill is between 1/8 to 1/2 inch (column 5, line 63), or 8 to 2 mesh. The infill layer includes a top course that may be deposited to a level that is 1/4 to 1/2 an inch below the tops of the turf fibers (column 6, lines 25-27) which are of a height of approximately 2-3 inches (column 4, line 35). The outer layer includes a turf backing formed of well-known materials (column 4, lines 40-41), such as a nylon/polymer non-woven layer (column 4, lines 60-61), and may include perforations (column 4, line 64). The outer layer is expected to retain resiliency, porosity, and substantially equal density as Buck

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et al. use like materials in a like manner and it would therefore be expected that the layers will retain these characteristics.

Buck et al. do not teach the pile tufts being formed of synthetic ribbon with a width of between 1/32 to 3/8 inches.

Benedyk teaches an artificial turf-like product with pile fibers having a width of between 0.020 to 0.100 inches (column 2, line 40). The fibers are designed to "closely simulate the 'feel' and look of natural grass" (column 1, line 32). Therefore, as it is clearly taught by Benedyk that synthetic grass may be dimensioned with a width of between 0.020 to 0.100 inches to closely resemble natural grass, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to dimension the fibers taught by Buck et al. to have a width of between 1/32 (0.03125) to 3/8 (0.375) inches. Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Regarding claim 46, matters relating to ornamentation only, which have no mechanical function, cannot be relied upon to patentably distinguish the claimed invention from the prior art. *In re Seid*, 161 F.2d 229, 73 USPQ 431. Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Regarding claim 51, the references disclose the claimed invention except for specifying a limitation on mesh sizes within 5 mesh sizes of each other. However, Buck et al. disclose the infill may be of a variety of shapes and sizes (column 5, lines 55-56), which would include a range of sizes within 5 mesh of each other. Further, the preferred diameter for spherical infill is between 1/8 to 1/2 inch (column 5, line 63), or 8 to

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2 mesh a range within 6 mesh of each other. It would have been an obvious matter of engineering choice to a person skilled in that art at the time the invention was made to further limit the preferred range to within 5 mesh since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the level of ordinary skill in the art. *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Claims 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buck et al. (U.S. Patent No. 6,818,274) in view of Jones (U.S. Patent No. 6,221,445).

Buck et al. teach an artificial turf system as described above.

Buck et al. do not teach a base layer comprising a mat formed of interconnected cells and disposed between the support layer and the outer layer. Nor do Buck et al. teach the turf system as having a permanent G-max within about 20% of a G-max of 100.

Jones teaches an artificial turf comprising an outer layer and a subbase surface separated by grid cell interiors comprising a mat formed of interconnected cells (Figures 2-3). As Jones uses like materials in a like manner as claimed, it would therefore be expected that the turf system will have the same characteristics claimed, particularly the permanent G-max values, absence a showing of unexpected results. The turf provides increased drainage for water removal and low impact flexibility that decreases deflection

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of the surface to provide a natural playing action. Therefore, as it is clearly taught by Jones that the presence of a mat of interconnected cells provides the advantages of increased drainage and flexibility, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to place a mat of interconnected cells between the support layer and outer layer taught by Buck et al. Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Regarding claim 53, as noted above, the references disclose the claimed invention except for specifying a limitation on mesh sizes within 5 mesh sizes of each other. However, Buck et al. disclose the infill may be of a variety of shapes and sizes (column 5, lines 55-56), which would include a range of sizes within 5 mesh of each other. Further, the preferred diameter for spherical infill is between 1/8 to 1/2 inch (column 5, line 63), or 8 to 2 mesh a range within 6 mesh of each other. It would have been an obvious matter of engineering choice to a person skilled in that art at the time the invention was made to further limit the preferred range to within 5 mesh since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the level of ordinary skill in the art. *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Allowable Subject Matter

Claims 1-2, 4-18, 20-23, 25-38, and 40-44 are allowed.

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As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

The following is a statement of reasons for the indication of allowable subject matter:

with respect to claims 1-25, the prior art uncovered does not show an artificial turf system comprising a support layer, a base layer including a grid of cells formed of upstanding tubular members having upper portions of a first diameter adapted to support an outer layer and lower portions having a second and larger diameter adapted to engage the support layer, particularly where the lower portions provide each cell with vertical flexibility; and

with respect to claims 26-44, the prior art uncovered does not show a base layer for use with an artificial turf system including a support layer, an outer layer, and a base layer wherein the base layer includes a flexible mat comprising a plurality of inter-connected grids, each grid comprising a plurality of inter-connected vertically disposed multi-diameter cells arranged in a polygonal configuration, particularly wherein each cell is formed of semi-flexible plastic and includes an upper portion with an upper edge for supporting the outer layer and a lower portion for engaging the support layer wherein the cells are constructed to provide relative flexibility between the upper and lower portions.

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Claims 3, 19, 24, and 39 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office Action and to include all of the limitations of the base claim and any intervening claims.

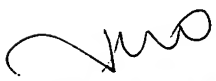
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron S. Austin whose telephone number is (571) 272-8935. The examiner can normally be reached on Monday-Friday: 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASA


JENNIFER MCNEIL
PRIMARY EXAMINER
1/31/06